What Is Claimed Is:

1. A color-simulating apparatus comprising:

a light source device for providing modulated lights of three primary colors, which are projected on an article and reflected by the article;

a demodulation device for receiving the lights reflected by the article and demodulating the lights to output signals representing the intensity of the three primary colored lights; and

a light-emitting device for generating a colored light according to the intensity signals output from the demodulation device.

2. The color-simulating apparatus as claimed in claim 1, wherein the light source device comprises:

a three-primary-colored light source for providing three primary colored lights; and

a modulation device for modulating the three primary colored lights.

3. The color-simulating apparatus as claimed in claim 1, wherein the demodulation device comprises:

an optical sensor for receiving the light reflected by the article and converting optical signals to electrical signals; and

a demodulator for demodulating the electrical signals to respectively output intensity signals of the three-primary-colored lights.

4. The color-simulating apparatus as claimed in claim 1, wherein

the light-emitting device comprises at least one three-primary-colored light source.

5. A color-simulating apparatus comprising:

a light source device for providing modulated light , which is projected on an article and reflected by the article;

a filtering device for separating the light into lights of three primary colors;

a demodulation device for receiving the three-primary-colored lights and demodulating the lights to output signals representing the intensity of the three primary colored lights; and

a light-emitting device for generating a colored light according to the intensity signals of the three-primary-colored lights output from the demodulation device.

6. The color-simulating apparatus as claimed in claim 5, wherein the light source device comprises:

a white light source for providing a white light; and

a modulation device for modulating the white light.

7. The color-simulating apparatus as claimed in claim 5, wherein the filtering device includes filters of three primary colors for filtering out lights of three primary colors from the white light.

8. The color-simulating apparatus as claimed in claim 5, wherein the demodulation device comprises:

an optical sensor for receiving the three-primary-colored lights and converting optical signals to electrical signals; and

a demodulator for respectively demodulating the electrical signals to obtain intensity signals of the three-primary-colored

lights.

9. The color-simulating apparatus as claimed in claim 5, wherein the light-emitting device comprises at least one three-primary-colored light source.

10. The color-simulating apparatus as claimed in claim 5, wherein the light source device comprises:

a three-primary-colored light source for providing three-primary-colored lights; and

a modulation device for modulating the three-primary-colored lights.

11. The color-simulating apparatus as claimed in claim 5, wherein the demodulation device comprises:

optical sensors for receiving the three-primary-colored lights and converting optical signals to electrical signals;

filters for respectively receiving the electrical signals output from the optical sensors and filtering out noises of the electrical signals; and

demodulators for respectively demodulating the filtered electrical signals to obtain intensity signals of the three-primary-colored lights